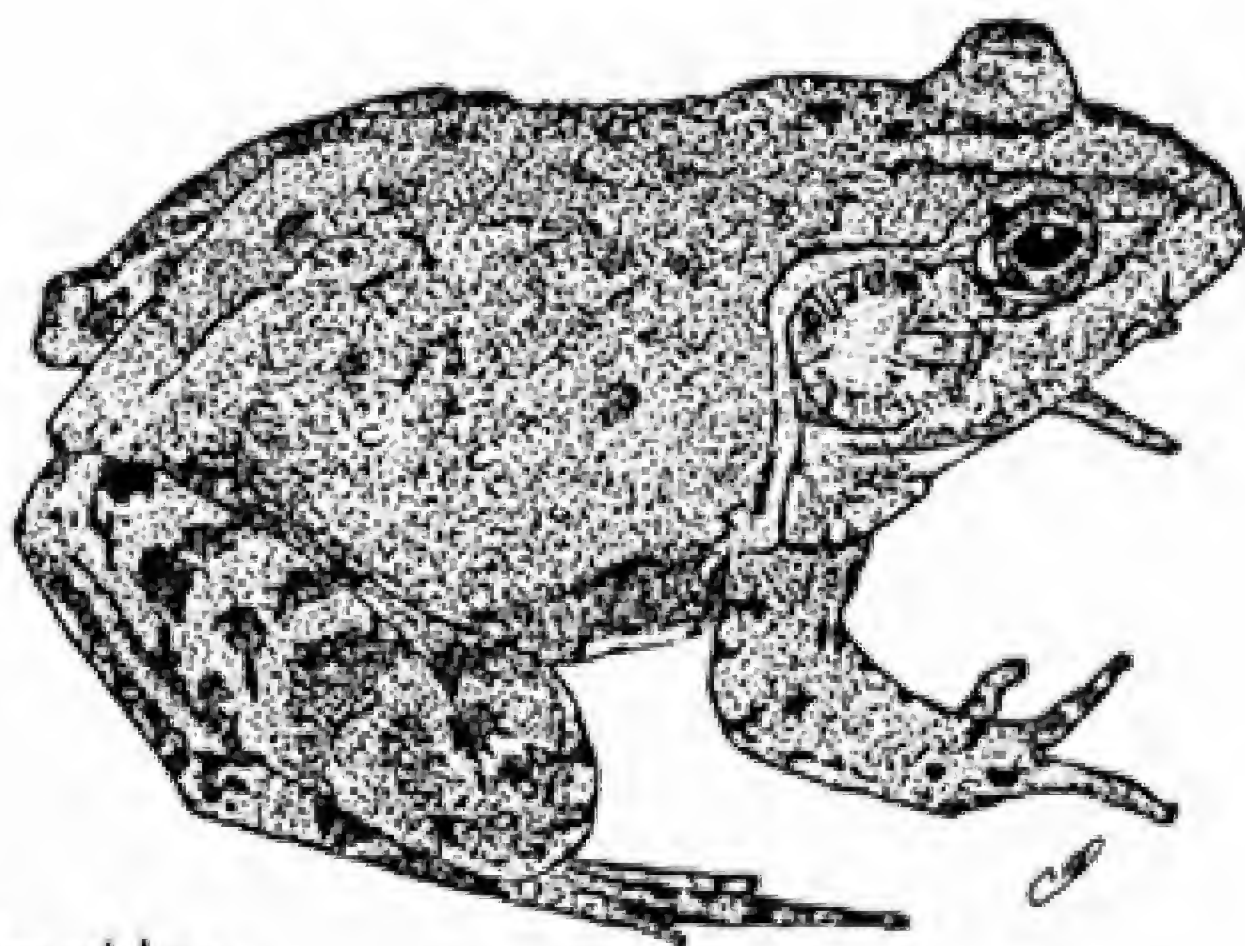


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BULLETIN INFORMATION

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Manuscripts being submitted for publication should be typewritten (double spaced) on good quality 8½ by 11 inch paper, with adequate margins. Consult the style of articles in this issue for additional information, including the appropriate format for literature citations. The metric system should be used for reporting all types of measurement data. Computer diskettes (Word or WordPerfect format) are desired for longer papers. Submissions concerning the herpetofauna of selected areas, such as a state park or county, should be prepared in article rather than field note format. Articles will be refereed by the editor and at least one other qualified reviewer. All changes must be approved by the author before publication; therefore, manuscripts must be received by the editor before the first of March and September to be considered for publication in the spring or fall issue, respectively, of *Catesbeiana*. Reprints of articles are not available to authors; however, authors may reprint articles themselves to meet professional needs.

(Editorial policy continued on inside back cover)

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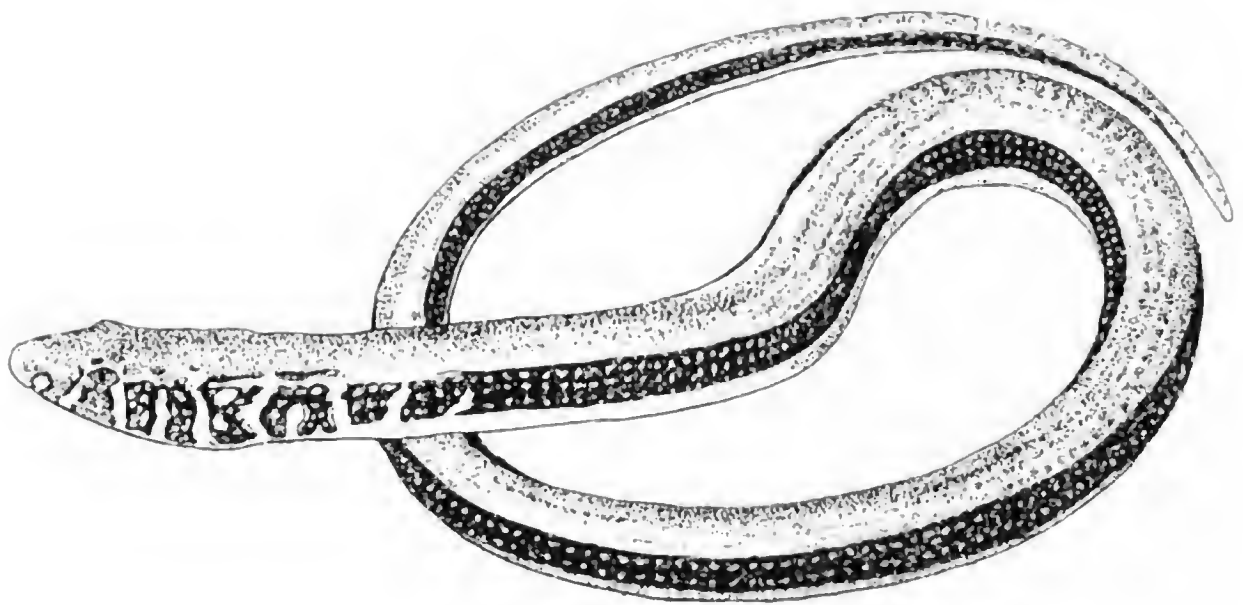
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Next Meeting

October 25, 2003
Liberty University
Lynchburg, Virginia

See page 78 for details



Eastern Glass Lizard (*Ophisaurus ventralis*)
Drawing by Michael J. Pinder

Records of Amphibians and Reptiles from Fort Pickett, Virginia

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INTRODUCTION

Fort Pickett – Maneuver Training Center (FP-MTC) is a relatively large military installation (18,251 ha or 45,100 acres) located in the southeastern portion of the Piedmont physiographic region of Virginia, primarily within Dinwiddie, Nottoway, and Brunswick counties (a very small portion lies within Lunenburg County) (Fig. 1). The base, which was established in 1941, is about 72 km (45 mi) southwest of Richmond and 3 km (2 mi) east of the town of Blackstone. VA Route 40 bisects the northern portion of the base and VA Route 46 crosses the southwestern corner. The surrounding counties are predominantly rural in character with land-use and industry being largely forestry-related (Johnson, 1991; Thompson, 1991). More than 80% of Fort Pickett is forested with pines and a variety of upland and bottomland hardwoods. The climate is classified as humid subtropical with hot humid summers and mild winters (Woodward and Hoffman, 1991). The topography is characterized by rolling plains dissected and drained by the Nottoway River and its tributaries. Elevation ranges from 58-137 m (190-450 ft) above sea level (Fleming and Van Alstine, 1994). The majority of the base is undeveloped to provide a natural landscape for military training activities. These same areas are used for forestry and wildlife management. About one quarter of FP-MTC is designated as a 'controlled access area' (CAA), and contains firing ranges and target sites for artillery and small arms training. This results in frequent fires, and the presence of unexploded ordnance has constrained development and forestry practices in this area.

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of Environmental Services, 450 Robinson Lane, Bellefonte, PA 16823

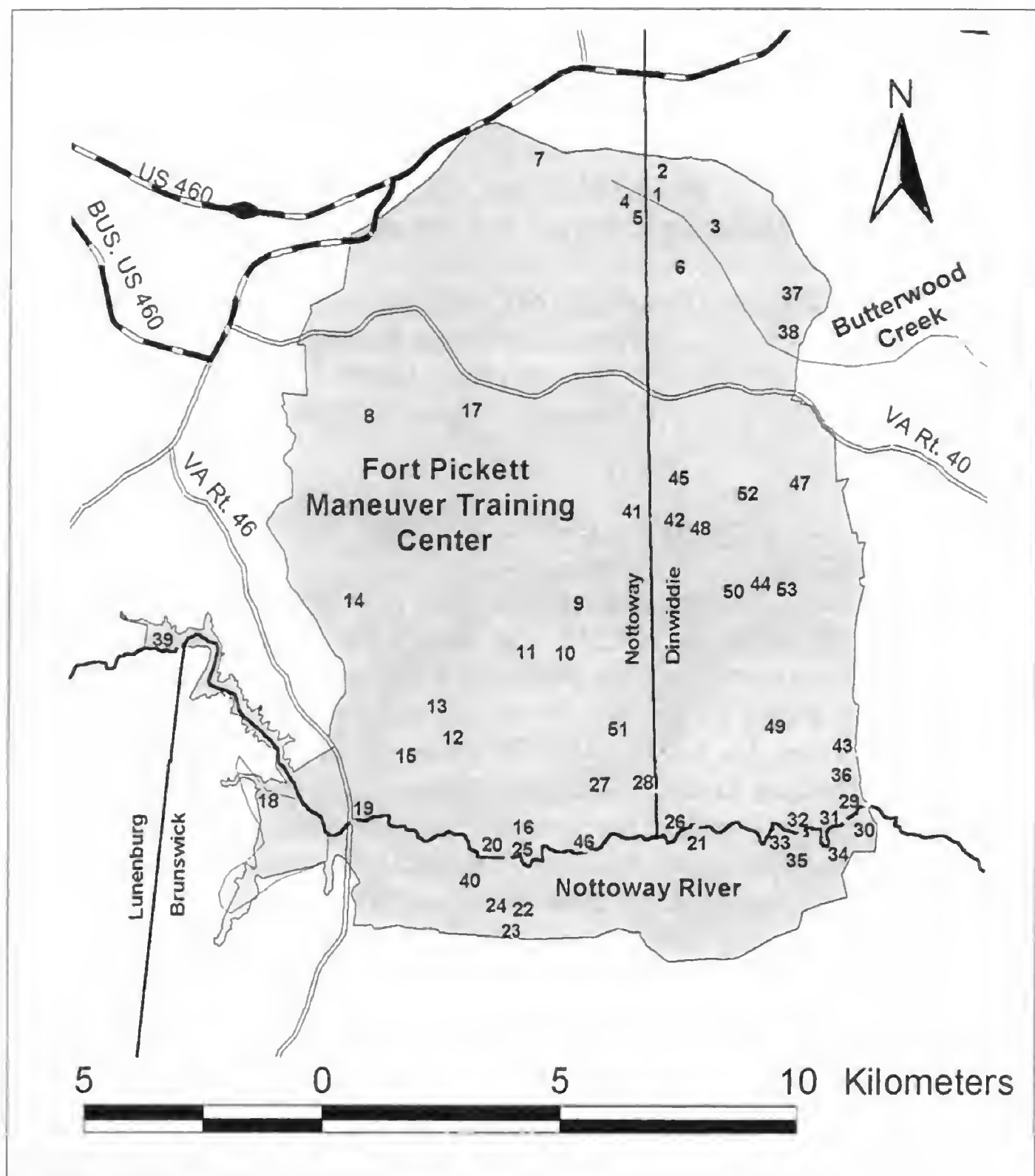
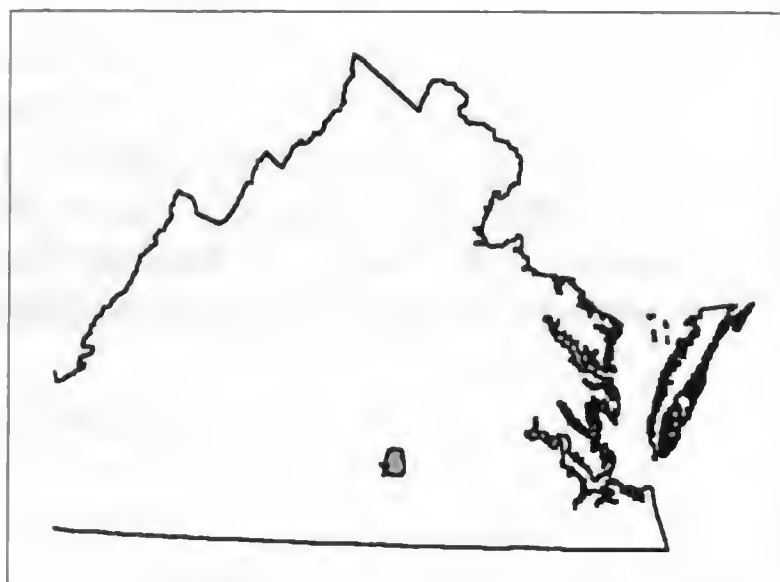


Fig. 1. Map of herpetological observation sites on Fort Pickett Maneuver Training Center. Inset: Location of Fort Pickett in southeast Virginia.



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The Virginia Department of Conservation and Recreation, Division of Natural Heritage (VDCR-DNH) was contracted by the Department of Defense (DOD), under a cooperative agreement with The Nature Conservancy (TNC), in 1991 to conduct an inventory of the biological diversity of FP-MTC. In June 1999, VDCR-DNH was contracted by the Commonwealth of Virginia, Department of Military Affairs to conduct a zoological survey of rare fauna on FP-MTC. Under both contracts, the intent of the zoological survey was to verify and document the presence (or absence), distribution, and population status of federal and state-listed threatened or endangered species and other rare animal species monitored by VDCR-DNH. The practical goal of the inventories was to assist FP-MTC personnel in decisions concerning land use, maintenance activities, public access, placement of facilities, and management of areas containing natural heritage resources.

Although only a few selected species of amphibians and reptiles (e.g., *Ambystoma tigrinum*, *Hyla gratiosa*, *Necturus punctatus*) were specifically targeted for survey, incidental observations of various species were made during the course of our surveys. Species such as the tiger salamander and barking treefrog were considered unlikely to occur on Fort Pickett because they have rarely been found in the Piedmont region of Virginia (Tobey, 1985; Mitchell and Reay, 1999).

Previous records of amphibians and reptiles from Fort Pickett were published by Hoffman (1953), Wood (1954), Tobey (1985), Mitchell (1994), and Mitchell and Reay (1999). Emrick and Murray (2001) contains a list of amphibians and reptiles believed to occur on Fort Pickett, but it is not annotated and lacks many of the species discussed below.

METHODS

Inventoried areas of Fort Pickett included many sections of the Nottoway River and its tributaries (including Birchin Creek, Butterwood Creek, Hurricane Branch, Little Nottoway River, and Tommeheton Creek), upland woods, man-made lakes, ponds (including beaver ponds), vernal pools, and some selected areas in the CAA. Access to the CAA was limited during the 1993 and 1999-2000 inventories to a few days each year (usually in July). Additional logistical difficulties were imposed by a

nearly continuous schedule of live-fire training and the abundance of stray ordnance. As a result, while some parts of this very large site were visited, other parts remain completely unsurveyed. The CAA needs further comprehensive surveys over several seasons to adequately document its faunal diversity in both terrestrial and aquatic systems.

Fieldwork for the first phase of VDCR-DNH surveys commenced in March 1993 and continued through November 1993 with surveys in all parts of the installation, including selected portions of the Controlled Access Area. Fieldwork for the second phase of our studies commenced in May 1999 and continued through December 2000 and covered similar areas of FP-MTC. Over the course of the inventories, we sampled more for amphibians than reptiles and also sampled more in wetland than upland habitats. Though some species were actively sought (e.g., *Ambystoma tigrinum*), most of our observations were made incidental to field surveys for taxa other than amphibians and reptiles. Some field methods were employed that sample more specifically for amphibians and reptiles. Call surveys for anurans were made at a variety of wetland habitats, including marshes, beaver ponds, man-made ponds, vernal pools, and riversides. Some cover objects were turned; however, this method was limited. Roads were surveyed for amphibians and reptiles during a rain event at dusk/night in April 2000. Some other, incidental observations were made while traveling roads. Amphibians were sampled using dip nets in pond and vernal pool habitats. Minnow traps employed in a variety of wetland habitats were standard two-piece, dual-funnel, wire-mesh traps. They were often baited with chicken liver and/or shrimp. No drift fence-pitfall arrays, coverboards, or turtle traps were employed during the study, but small pitfall cans were used sparingly (primarily to capture ground invertebrates).

RESULTS

Fifty-three species of amphibians (23) and reptiles (30) have been documented on Fort Pickett. None of these are state or federally-listed endangered or threatened species, nor are any likely to inhabit the base. One new county record was verified during our surveys. Numerous other county records were recorded but are not supported by voucher specimens, photographs, or call recordings. The following checklist includes all species of amphibians and reptiles that have been documented

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on Fort Pickett. Only 36 of these species were recorded during our surveys. Additional species are possible (see discussion). An asterisk after the scientific name indicates that the species was listed for Fort Pickett in Emrick and Murray (2001). Site numbers correspond to locations plotted on Figure 1.

Annotated Checklist

Amphibians

Anurans

1. Northern Cricket Frog (*Acris crepitans*)*
[sites 1, 3, 6, 9-10, 12-14, 16, 18, 20-22, 27-28, 30, 32-37, 41-43]

Northern cricket frogs are widespread and common on the base, where they inhabit a variety of wetlands including ponds, vernal pools, lakes, ditches, streams, and the shoreline of the Nottoway River. Our records range from 29 March to 7 November. Tadpoles were found in a granite flatrock pool on 6 July 2000. Mitchell and Reay (1999) plotted two records for *Acris crepitans* in Fort Pickett, presumably along VA Routes 40 and 46, respectively. Their nearest record for *A. gryllus* is along the Nottoway River in Brunswick County approximately 11 km (7 mi) southeast of Fort Pickett. This species may also inhabit the base, but we did not confirm its presence.

2. American Toad (*Bufo americanus*)* [sites 10, 18, 30, 39]

American toads are apparently common on the base, but less widespread than Fowler's toads. Our records range from 17 April to 6 July. Mitchell and Reay (1999) plotted several records in or near Fort Pickett, including a site presumably along VA Rt. 40 in Dinwiddie County.

3. Fowler's Toad (*Bufo fowleri*)*
[sites 1, 8, 13, 18, 20-21, 30, 32, 36, 44; *Bufo* sp. eggs, tadpoles, and juveniles: sites 14, 20, 39, 41, 45]

Fowler's toads are widespread and common on the base where they inhabit a variety of wetlands including ponds, vernal pools, lakes, ditches,

streams, and the shoreline of the Nottoway River. Our records range from 28 March to 7 November. Fresh toad eggs (species not determined) were found in a ditch and beaver pond on 29 March 1993. Toad tadpoles were observed in several wetlands in mid-May of 1999 and 2000. Mitchell and Reay (1999) plotted one record for *B. fowleri* on the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett.

4. Eastern Narrow-mouthed Toad (*Gastrophryne carolinensis*)* [site 38]

Our only record for narrow-mouthed toads on Fort Pickett was of several males calling at a roadside pond on 27 July 2000 in the Dinwiddie County portion of the base. This species was not recorded from Dinwiddie, Lunenburg or Nottoway counties by Mitchell and Reay (1999). Their lone record for Brunswick County is near the North Carolina border, well south of Fort Pickett. d'Orgeix (2003) found narrow-mouthed toads on 27 June 2002 at three sites in Dinwiddie County to the east of Fort Pickett.

5. Cope's Gray Treefrog (*Hyla chrysoscelis*)*
[sites 1, 4, 11, 14, 17-18, 30]

Both species of gray treefrogs inhabit Fort Pickett. *Hyla chrysoscelis* is widespread and common on the base; our records of adults range from 17 April to 7 July. Fresh eggs were observed in several vernal pools on 18 May 1999. A 4-legged tadpole with a reduced tail (ca. 25 mm SVL) was found in a roadside pool on 28 September 2000. Mitchell and Reay (1999) plotted several records for *H. chrysoscelis* just north of Fort Pickett, presumably along US Rt. 460.

6. Gray Treefrog (*Hyla versicolor*)* [site 18]

We have only one record for this species on Fort Pickett. Calling males were heard from 2000 to 2400 h on 27 July 1999 near the Co. Rt. 615 crossing of Crooked Creek near the western border of the base. The nearest record in Mitchell and Reay (1999) is along the Nottoway River in Nottoway County approximately 21 km (13 mi) west of Fort Pickett. The Fort Pickett record represents a slight eastern extension of the known range.

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7. Spring Peeper (*Pseudacris crucifer*)*

[sites 1, 4, 7-8, 12-16, 18, 20, 27-28, 32, 36, 39-40, 45-46]

Spring peepers are widespread and common on the base, inhabiting ponds, vernal pools, lakes, ditches, marshes, and streams during the breeding season. Our records range from 28 March to 3 October. Calling males were heard in both spring and fall. Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett. This species was not recorded from Brunswick or Lunenburg counties by these authors, but three of our observation sites were in Brunswick County and another (confluence of Little Nottoway and Nottoway rivers) straddles the Lunenburg-Nottoway county line.

8. Southeastern Chorus Frog (*Pseudacris feriarum*)

[sites 4, 8, 15, 18, 32, 40, 45, 47]

Chorus frogs were recorded only during March and April. Breeding sites included vernal pools, beaver ponds, ditches, and marshy swales. Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett. This species was not recorded from Brunswick or Lunenburg counties by these authors, but several of our observation sites were in Brunswick County.

9. American Bullfrog (*Rana catesbeiana*)*

[sites 4, 12-14, 18, 21-22, 25, 30, 35, 38-39, 43, 49]

Bullfrogs were common on Fort Pickett in marshes, ponds, and man-made lakes, and along the Nottoway River and several tributaries. Calling adults were also heard at a vernal pond. Our records range from 17 April to 4 October. One specimen was captured in a minnow trap. Mitchell and Reay (1999) plotted one record in Brunswick County in or near Fort Pickett, but they did not record this species from Nottoway County. About half of our records were obtained in the latter county.

10. Green Frog (*Rana clamitans*)*

[sites 1, 4-5, 7, 10, 13-14, 18, 22, 27, 30, 38, 42, 50]

Green frogs are common and widespread on the base, where they inhabit a variety of wetlands including ponds, vernal pools, lakes, ditches, marshes, streams, and the Nottoway River. Our records range from 15 May to 3 October. One specimen was captured in a minnow trap. Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, presumably along US Rt. 460 just north of Fort Pickett.

11. Pickerel Frog (*Rana palustris*)* [sites 4, 21, 30, 35, 42]

Pickerel frogs were recorded at vernal pools, ponds, and the Nottoway River and several tributaries. Our dates range from 17 April to 8 September. Calling males were heard as late as 24 August 2000. Mitchell and Reay (1999) plotted several records in and near Fort Pickett.

12. Southern Leopard Frog (*Rana sphenocephala*)* [sites 12, 30, 32, 45]

Leopard frogs are probably more common on Fort Pickett than our few records suggest. We found this species at a beaver pond, and along the Nottoway River (2 sites) and a tributary (Hurricane Branch). A mated pair was observed on 29 March 1993 at the beaver pond. Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett.

Salamanders

13. Spotted Salamander (*Ambystoma maculatum*)*

[sites 2, 4, 33, 41, 45, 47, and other unspecified sites]

Spotted salamanders are common on Fort Pickett. We found egg masses and larvae in woodland ponds, vernal pools, and roadside ditches between 28 March and 18 May. An adult was crossing a road in a heavy downpour on the night of 17 April 2000. Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett.

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14. Marbled Salamander (*Ambystoma opacum*)
[sites 2, 4-5, 33, 41, 45, 47]

Marbled salamanders are common on Fort Pickett. We dipnetted larvae in vernal pools, floodplain ponds, upland ponds, beaver ponds, and roadside ditches between 29 March and 16 May. Mitchell and Reay (1999) plotted 2-3 records in or near Fort Pickett, presumably where VA Routes 40 and 46 cross the base.

15. Northern Dusky Salamander (*Desmognathus fuscus*) [sites 7, 27, 36]

We recorded dusky salamanders along an unnamed tributary to the Nottoway River, Tommeheton Creek near its confluence with this river, and at a spring head. All of our records were obtained in the fall of 2000 (28 September-7 November). This is apparently the first report of this species for Fort Pickett, but Mitchell and Reay (1999) plotted a record just to the east of the base in Dinwiddie County.

16. Southern Two-lined Salamander (*Eurycea cirrigera*)
[sites 10, 27, 30, 51]

Larval two-lined salamanders were found in several small streams on Fort Pickett, but we did not observe any adults during our limited sampling. Tobey (1985) plotted a record for two-lined salamanders along the Nottoway River in Brunswick County in or near Fort Pickett. This record is lacking in Mitchell and Reay (1999), but these authors had a record just to the east of the base in Dinwiddie County. This species was not recorded from Nottoway County by either of these sources, but three of our four sites are in this county.

17. Three-lined Salamander (*Eurycea guttolineata*)

Three-lined salamanders were not observed during our surveys, but Mitchell and Reay (1999) plotted a record along the Nottoway River in Fort Pickett, apparently just to the east of VA Rt. 46 in Brunswick County.

18. Four-toed Salamander (*Hemidactylium scutatum*)

We did not record four-toed salamanders, but Mitchell and Reay (1999) plotted two records presumably along VA Rt. 40 in the Nottoway County portion of Fort Pickett.

19. Dwarf Waterdog (*Necturus punctatus*) [site 36]

We discovered a population of dwarf waterdogs in Tommeheton Creek near the southeastern corner of Fort Pickett. One immature specimen (29.5 mm total length, 16 mm SVL) was dipnetted at mid-day on 7 November 2000 from submerged vegetation ca. 0.5 km above the confluence with the Nottoway River (specimen deposited in Virginia Museum of Natural History). Subsequently, two adults (both ca. 180 mm total length) were captured in one minnow trap (out of eight traps set along a 200 m stretch of Tommeheton Creek), baited with chicken liver and shrimp, set in the same area on 29 November 2000 and retrieved on 1 December 2000. Both specimens were photographed and released (color slides on file in VDCR-DNH office). This area of Tommeheton Creek is approximately 3-5 m wide and 0.5-2 m deep with a mostly sandy substrate and relatively slow current. The banks were vegetated with grasses and sedges. About 50 m downstream of this area is an extensive beaver marsh; however, the creek is deeply channelized through the marsh. At the south end of the marsh is a beaver dam, which greatly reduces the flow of Tommeheton Creek into the Nottoway River. Upstream of the capture sites more beaver dams occur, but it is not known if *N. punctatus* inhabits these areas.

Our efforts to trap *N. punctatus* elsewhere on Fort Pickett were both limited and unsuccessful; however, this does not necessarily indicate that this species is absent from other areas of the base. Appropriate habitat occurs intermittently along the Nottoway River and may occur farther upstream in Tommeheton Creek and in Butterwood Creek where stream flows are not too sluggish and channels are not choked with weeds. Information is still needed on the dwarf waterdog population of Fort Pickett. Further surveys to document the size and demographics of the population are needed as well as to more accurately determine which habitats are being utilized.

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Dwarf waterdogs are aquatic salamanders that inhabit small and medium-sized streams from the Okmulgee-Altamaha drainage in southeastern Georgia northward to the Chowan drainage in Virginia (Petranka, 1998). Primarily known from the Coastal Plain, it also occurs in the lower portions of the Piedmont physiographic region. In Virginia, *N. punctatus* is known from eight collection sites in the southeastern part of the state, with records for Brunswick, Greensville, Prince George, and Sussex counties (Roble et al., 1999). These sites are well separated, leaving many gaps in our knowledge of the distribution of this species. The closest occurrence to Fort Pickett is about 20 km to the south in Great Creek in the Meherrin River drainage (Roble et al., 1999). The species was previously documented from the Nottoway River drainage at Rowanty Creek and Stony Creek in Sussex County (Roble et al., 1999). The Fort Pickett capture represents a new county (Dinwiddie) record for Virginia (see Roble et al., 1999 for a discussion of previous reports from this county) at the extreme northwestern edge of the species' range. The Tommeheton Creek record extends the range approximately 65 river km (40 mi) upstream in the Nottoway River drainage (Fig. 2).

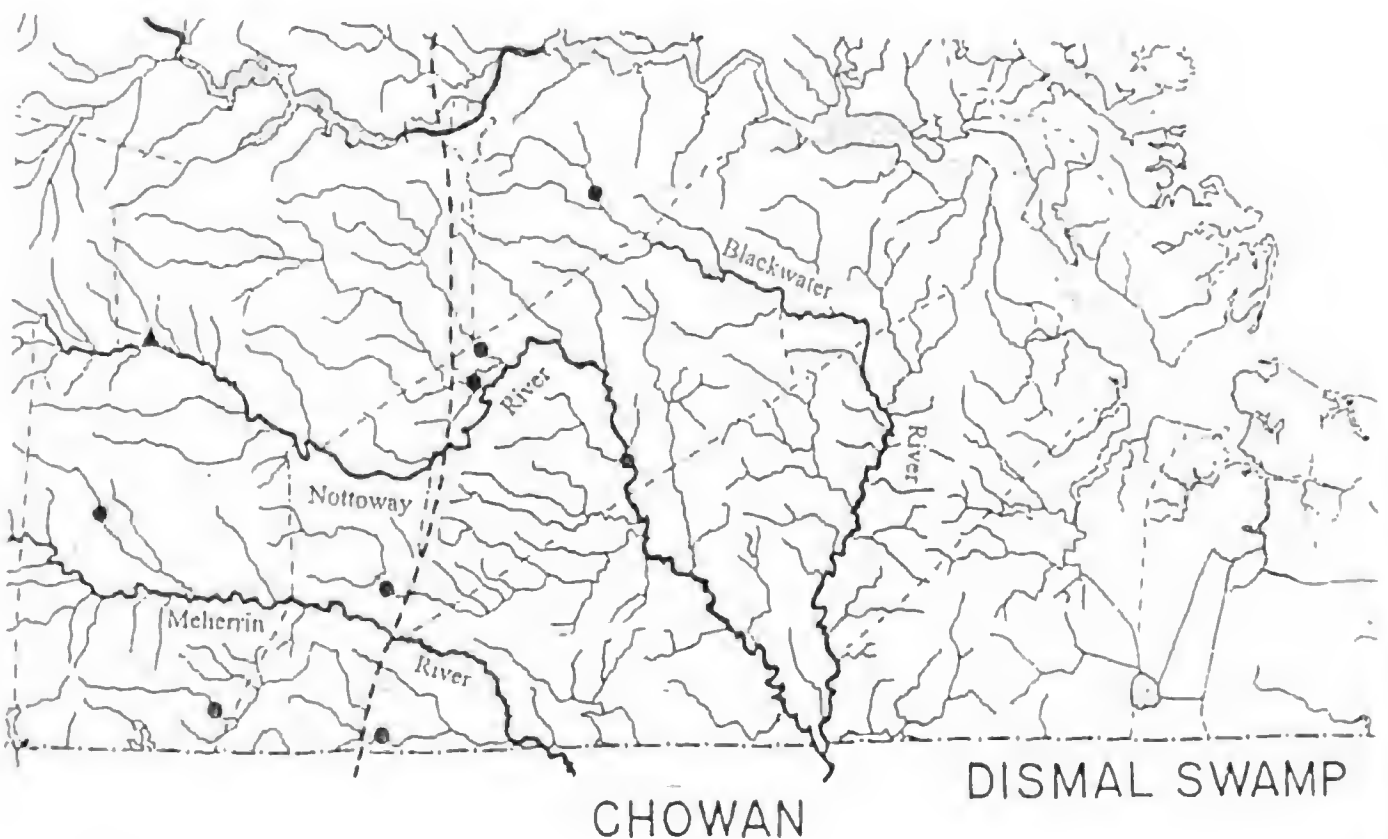


Fig. 2. Distribution of *Necturus punctatus* in Virginia (modified from Roble et al., 1999); the Fort Pickett locality is indicated by the triangle.

20. Red-spotted Newt (*Notophthalmus viridescens*)*
[sites 14, 18, 21-22, 32-33, 36]

Newts are common on Fort Pickett. We captured them in minnow traps and by dipnetting. They were found in vernal pools, floodplain ponds, oxbows, man-made ponds, marshes, streams, and sluggish areas along the Nottoway River. Mitchell and Reay (1999) plotted two records in or near the Nottoway County portion of Fort Pickett. This species was not recorded from Brunswick County by these authors, but several of our sites were in this county.

21. Atlantic Coast Slimy Salamander (*Plethodon chlorobryonis*)

We did not actively search for this species, but Hoffman (1953) reported a specimen (USNM 131907; adult male) from Fort Pickett as *Plethodon g. glutinosus*. He discussed its similarity to the then-recently described *P. chlorobryonis* and suggested that the specimen was an intergrade. Based on the current recognition of *P. chlorobryonis* as a valid species (Highton et al., 1989), and restriction of *P. glutinosus* to western portions of Virginia (Highton et al., 1989; Mitchell and Reay, 1999), the record discussed by Hoffman is presumably referable to the former species. Fort Pickett is near the western range limit of *P. chlorobryonis* and the eastern range limit of the White-spotted Slimy Salamander (*Plethodon cylindraceus*) (Mitchell and Reay, 1999). Tobey (1985) plotted 1-2 records for slimy salamanders (reported as *P. g. glutinosus*) in the Nottoway County portion of Fort Pickett. Curiously, Mitchell and Reay (1999) did not have any records for either species within the area encompassed by base. Their nearest record for *P. chlorobryonis* is in Dinwiddie County just to the east of the base and their nearest record for *P. cylindraceus* is in northwestern Nottoway County, approximately 30 km (19 mi) from the base. Mitchell and Reay (1999) plotted records for both species only in Chesterfield and New Kent counties, suggesting little overlap in the ranges of these species in Virginia. Further sampling is needed in the Fort Pickett area to more accurately determine which species is/are present.

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22. Mud Salamander (*Pseudotriton montanus*)

Mud salamanders were not found during our surveys, but Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett.

23. Red Salamander (*Pseudotriton ruber*)

We did not record this species, but it was previously reported from Fort Pickett by Hoffman (1953), who stated that the lone voucher specimen available to him was discarded due to its poor condition. The Fort Pickett record is not included in Mitchell and Reay (1999), but they plotted a record on the Dinwiddie-Nottoway county line, presumably along US Rt. 460 just north of the base. The range map in Tobey (1985) shows a record in Nottoway County, apparently slightly to the northwest of Fort Pickett.

Reptiles

Turtles

24. Snapping Turtle (*Chelydra serpentina*)* [sites 15, 38]

Snapping turtles are presumably common throughout Fort Pickett in lakes, ponds, marshes, streams, and the Nottoway River. However, we only recorded it twice, including one crossing a road (17 April) and the other at a roadside pond (25 August). Trapping would undoubtedly reveal that the species is widespread on the base. Mitchell (1994) and Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett. Tobey (1985) also showed a locality in Nottoway County that appears to be within the base.

25. Eastern Painted Turtle (*Chrysemys picta picta*)* [sites 14-15, 23, 35, 49, 52]

Painted turtles were observed in lakes, ponds, and streams between 15 May and 15 September. Mitchell (1994) and Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett.

26. Spotted Turtle (*Clemmys guttata*)* [site 8]

Our only record for spotted turtles was obtained on 6 May 1993 at a marshy wetland near the south end of the Fort Pickett airport (Blackstone Army Airfield) in the Nottoway County portion of the base. Mitchell (1994) and Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses the base. Both of these sites are at the western periphery of the known range of spotted turtles in the southern Piedmont of Virginia.

27. Eastern Mud Turtle (*Kinosternon subrubrum subrubrum*)* [site 1]

Our only record of mud turtles was obtained on 18 May 1999 at a man-made pond (Twin Lakes) near the northern boundary of the base (Dinwiddie County). A trapping survey would likely reveal additional sites on the base. Mitchell and Reay (1999) did not plot any records in the vicinity of Fort Pickett, nor did they have any records from Brunswick, Dinwiddie, or Lunenburg counties. However, Mitchell (1994) mapped records in all three counties as well as a site in extreme eastern Nottoway County that is near our site (possibly along VA Rt. 40) and presumably on Fort Pickett.

28. River Cooter (*Pseudemys concinna*)* [sites 14, 19, 30]

River cooters were observed basking at two sites along the Nottoway River as well as at a man-made pond (dates: 15 May-25 August). Mitchell and Reay (1999) did not plot any records in the vicinity of Fort Pickett. This species was not recorded from any sites along the Nottoway River by these authors, but Mitchell (1994) plotted an unvouchered record near the river in Sussex County.

29. Northern Red-bellied Cooter (*Pseudemys rubriventris*)
[sites 18-19, 29]

Large basking turtles that were identified as this species were observed in a beaver pond near the Nottoway River (4-5 seen on 2 September 1999), in the Nottoway River below the Nottoway Reservoir (29 June 1999), and in Crooked Creek just above the Nottoway Reservoir (>20 seen on 17 April 2000). The range maps for this species in Mitchell (1994) and

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Mitchell and Reay (1999) do not indicate any Piedmont records south of Goochland and Henrico counties (both north of Richmond). Therefore, we recommend a trapping survey to confirm the presence of this species on Fort Pickett, and to determine the distribution and abundance of *P. concinna concinna* (and possibly *P. c. floridana*) on the base.

30. Eastern Musk Turtle (*Sternotherus odoratus*)* [sites 14, 20]

We observed this species at a man-made pond on 28 July 2000 and in the Nottoway River on 11 October 2000. A trapping survey would undoubtedly reveal additional sites on the base. Mitchell (1994) and Mitchell and Reay (1999) did not plot any records in the immediate vicinity of Fort Pickett, their nearest records for Dinwiddie and Nottoway counties being rather distant from the base.

31. Eastern Box Turtle (*Terrapene carolina carolina*)* [sites 11, 20, 30]

Box turtles are presumably much more common on the base than our few records suggest. We conducted limited sampling in upland forested habitats where this species is most likely to occur. A juvenile was captured on 9 July 1999 in a baited pitfall trap that was set in a fire-maintained native grassland within the CAA. A road-killed specimen was observed on Co. Rt. 613 over the Nottoway River ("Gills Bridge") along the Dinwiddie-Brunswick county line in the southeastern corner of the base. This species was not recorded from either of these counties by Mitchell and Reay (1999), but Mitchell (1994) plotted an unvouchered record in central Brunswick County. Both of these publications included a record for box turtles just west of the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett.

32. Yellow-bellied Slider (*Trachemys scripta scripta*) [sites 1, 13]

We observed this species only at a man-made pond (Twin Lakes) on 18 May 1999 (Dinwiddie Co.) and along Hurricane Branch (a tributary of the Nottoway River) on 7 September 2000 (Nottoway Co.). Trapping and/or basking surveys would likely reveal additional sites on the base. Mitchell and Reay (1999) plotted a record in Lunenburg County to the west of Fort Pickett, but neither they nor Mitchell (1994) recorded this species from Dinwiddie or Nottoway counties.

Lizards

33. Six-lined Racerunner (*Aspidoscelis* [= *Cnemidophorus*] *sexlineatus*)*
[sites 43, 53]

We observed racerunners on 7 September 1993 near Birchin Lake and eight days later along Reservation Road near Co. Rt. 613 (both Dinwiddie Co.). Mitchell (1994) and Mitchell and Reay (1999) lacked records for this species from Dinwiddie County, but plotted a record just across the county line in eastern Nottoway County, possibly along VA Rt. 40 within Fort Pickett.

34. Five-lined Skink (*Eumeces fasciatus*) [sites 20, 30]

We observed this species only twice, including a juvenile on 25 August 2000, but presume that it is common on Fort Pickett. Five-lined skinks were first reported from the base by Hoffman (1953). Mitchell (1994) and Mitchell and Reay (1999) plotted a record just west of the Dinwiddie-Nottoway county line, presumably along US Rt. 460 to the north of the base.

35. Southeastern Five-lined Skink (*Eumeces inexpectatus*)

This skink was first reported from Fort Pickett by Hoffman (1953), who described the color patterns of an adult and a juvenile specimen. We did not record it during our limited surveys of upland forests. Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, whereas Mitchell (1994) had two records in this area. The southernmost of these sites is presumably along VA Rt. 40 within Fort Pickett.

36. Northern Fence Lizard (*Sceloporus undulatus hyacinthinus*)
[sites 33, 42 and one unspecified location]

We observed fence lizards at three sites on the base (dates: 29 March-8 September), including sites in Brunswick and Dinwiddie counties. This species was first reported from Fort Pickett (total of 8 specimens) by Hoffman (1953). Mitchell (1994) and Mitchell and Reay (1999) plotted two records on the Dinwiddie-Nottoway county line, the southernmost of

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which is presumably along VA Rt. 40 within Fort Pickett. Neither of these sources had a record of this species for Brunswick County.

37. Little Brown Skink (*Scincella lateralis*)

Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett. We conducted limited sampling in upland forested habitats where this species is most likely to occur. We did not actively search for lizards during our surveys, and did not record this species.

Snakes

38. Copperhead (*Agkistrodon contortrix*)*

We did not encounter copperheads during our field surveys, but captives were observed in the office building of the Fort Pickett Natural Resources Division. Copperheads were previously reported from Fort Pickett by Hoffman (1953), Wood (1954), Tobey (1985), Mitchell (1994), and Mitchell and Reay (1999).

39. Wormsnake (*Carphophis amoenus*)

This species was first reported from Fort Pickett by Hoffman (1953). Mitchell (1994) plotted two records on the Dinwiddie-Nottoway county line; the southernmost of these sites is presumably along VA Rt. 40 within the base. We did not actively search for terrestrial snakes, which likely explains our failure to record this secretive, but often abundant, species.

40. Scarlet Snake (*Cemophora coccinea*)

Mitchell (1994) and Mitchell and Reay (1999) plotted a record for scarlet snakes just west of the Dinwiddie-Nottoway county line, presumably either along VA Rt. 40 within Fort Pickett or along US Rt. 460 just north of the base (the mapped locations appear to differ slightly). We did not record this elusive species during our surveys.

41. Northern Black Racer (*Coluber constrictor constrictor*)*
[sites 3, 18, 30, 32]

Black racers are likely common throughout the base despite the lack of records in Mitchell (1994) and Mitchell and Reay (1999). The latter source lacks several records present in the former for the four counties encompassed by Fort Pickett. We have six records for this species (29 March-1 September), including a DOR specimen at Gills Bridge on 16 May 2000. Another adult was preparing to shed on the latter date.

42. Ring-necked Snake (*Diadophis punctatus edwardsii*)

Hoffman (1953) reported a juvenile specimen from Fort Pickett and indicated that it was typical of this subspecies in most characters. Tobey (1985) plotted four records in Nottoway County, including one within the area encompassed by the base. Mitchell (1994) and Mitchell and Reay (1999) both included the latter record in their range maps. The latter authors stated that the area encompassed by Fort Pickett falls within an intergrade zone between *D. p. edwardsii* and *D. p. punctatus*. We did not observe this species during very limited sampling of upland forested habitats where it is most likely to occur.

43. Black Rat Snake (*Elaphe obsoleta*)* [site 20 and one unspecified site]

Black rat snakes are presumably common throughout Fort Pickett despite the fact that we only recorded it twice. It was first reported from the base by Hoffman (1953), who stated that the species was abundant in the area. Mitchell (1994) and Mitchell and Reay (1999) plotted two records on the Dinwiddie-Nottoway county line, the southernmost of which is presumably along VA Rt. 40 within Fort Pickett.

44. Eastern Hog-nosed Snake (*Heterodon platirhinos*)* [sites 24, 32]

Hog-nosed snakes were first reported from Fort Pickett by Hoffman (1953). Mitchell (1994) and Mitchell and Reay (1999) plotted 1-2 records in or near Fort Pickett, presumably along or near VA Rt. 40 in the northern portion of the base. Both of our observations were of melanistic adults. One was observed along the banks of the Nottoway River near the southeastern corner of the base. The other was found on 3 October 2000

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while crossing Range Road in the Brunswick County portion of the base. It exhibited the death-feigning behavior characteristic of this species. Mitchell and Reay (1999) did not record *H. platirhinos* from Brunswick County, but Mitchell (1994) plotted an unvouchered locality record.

45. Mole Kingsnake (*Lampropeltis calligaster rhombomaculata*)*

We did not record this subterranean snake, but Mitchell (1994) and Mitchell and Reay (1999) plotted three records in Nottoway County, including one just west of the Dinwiddie County line that is presumably along VA Rt. 40 in Fort Pickett.

46. Eastern Kingsnake (*Lampropeltis getula getula*)*

Although Hoffman (1953) stated that this species was rather common on Fort Pickett, we did not encounter it. Mitchell (1994) and Mitchell and Reay (1999) plotted two records just west of the Dinwiddie-Nottoway county line, the southernmost of which is presumably along VA Rt. 40 within Fort Pickett.

47. Northern Watersnake (*Nerodia sipedon*)* [sites 3, 22, 30]

This aquatic snake is presumably common throughout the base in a variety of wetlands despite our few records. We recorded it on four dates between 18 May and 3 October; all observations were in riparian habitats. Mitchell (1994) and Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett.

48. Rough Greensnake (*Opheodrys aestivus*) [sites 3, 32]

This species was first reported from Fort Pickett by Hoffman (1953). This record is lacking in Mitchell and Reay (1999), but these authors plotted a record on the Dinwiddie-Nottoway county line, presumably along US Rt. 460 just north of the base. The range map in Mitchell (1994) includes two sites along this county line, the southernmost of which may be along VA Rt. 40 within Fort Pickett. Our only records were obtained on 1 September 1999 near the Nottoway River and on 3 October 2000 near Butterwood Creek.

49. Queen Snake (*Regina septemvittata*)

We did not record this species despite visiting numerous streams on Fort Pickett. Mitchell (1994) and Mitchell and Reay (1999) plotted a record just west of the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses the base.

50. Brownsnake (*Storeria dekayi*)*

This snake was first reported from Fort Pickett (two specimens) by Hoffman (1953). These records are lacking in Mitchell (1994) and Mitchell and Reay (1999), but these authors plotted a record on the Dinwiddie-Nottoway county line, presumably along US Rt. 460 just north of the base. Our very limited terrestrial surveys for snakes are probably responsible for our lack of records of this secretive species.

51. Red-bellied Snake (*Storeria occipitomaculata*)

We conducted very limited sampling in upland forested habitats where this secretive species is most likely to occur and did not observe it. Mitchell (1994) and Mitchell and Reay (1999) plotted a record just west of the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett.

52. Eastern Ribbonsnake (*Thamnophis sauritus*)

Despite numerous visits to a variety of wetland habitats, we did not observe this species. Mitchell (1994) and Mitchell and Reay (1999) plotted a record on the Dinwiddie-Nottoway county line, presumably where VA Rt. 40 crosses Fort Pickett.

53. Eastern Gartersnake (*Thamnophis sirtalis*)* [site 33]

There are no records of this widespread snake near Fort Pickett in Tobey (1985), Mitchell (1994), or Mitchell and Reay (1999). All of these sources lack records for Nottoway County. Our only record was obtained on 29 March 2000 at a floodplain pond along the Nottoway River near the southeastern corner of the base. Despite this lone record, we presume this

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species is common throughout Fort Pickett, including the Nottoway County portion of the base.

DISCUSSION

Fort Pickett is a unique and diverse area in the southern Piedmont of Virginia. In particular, the Nottoway River basin and the Controlled Access Area are exemplary habitats, which warrant special attention and management consideration. Protection of these areas and others on the base will contribute greatly to the overall species richness of the southern Piedmont, and preserve for the future natural communities that are disappearing across the landscape.

The Nottoway River and its floodplain comprise one of the most unspoiled and important natural areas on Fort Pickett and warrant careful management and protection. This area merits a very high level of protection because of its overall biodiversity value and the presence of federal and state-listed endangered and threatened fish and mussel species (Chazal and Derge, 2001). Numerous amphibians and reptiles also inhabit the river, its floodplain (including oxbow ponds, vernal pools, etc.), and several tributaries on Fort Pickett. Threats to the Nottoway River basin include siltation of the river channel, degradation of water quality, maintenance of adequate water flow from the upstream reservoir, competition from exotic species, and impacts from timber cutting. Off-site threats include major watershed alterations such as new impoundments, accelerated ditching and deforestation, pollution, and large-scale water withdrawal. Each of these may impact and alter the faunal assemblage of the river.

The Controlled Access Area (= Impact Area) of Fort Pickett is an unusual ecosystem with eight rare and significant fire-maintained natural communities plus the world's largest population of the federally-listed endangered shrub Michaux's sumac (*Rhus michauxii*), Virginia's best population of the state threatened Bachman's Sparrow (*Aimophila aestivalis*), and four additional rare plant and animal occurrences (Fleming and Van Alstine, 1994). However, the herpetofauna of this portion of the base is very poorly known due to severe restrictions on access. Additional surveys of the CAA, particularly for reptiles, are clearly warranted.

Table 1. Comparison of known herpetofaunal diversity on selected military installations in Virginia.

Military installation	Size (ha)	Amphibians	Reptiles	Total species	Relative sampling effort	Source
Ft. A.P. Hill	30,734	28	29	57	Moderate	Mitchell and Roble, 1998
Ft. Belvoir	3,503	22	26 ^a	48 ^a	Moderate to high	Ernst et al., 1997
Ft. Lee	2,198	13	9	22	Low	Roble and Hobson, 1998; Roble, 1999
Ft. Pickett	18,251	23	30	53	Low	This paper
Nansemond Ordnance Depot ^b	394	8	12	20	Low to moderate	Mitchell et al., 2001
NSGA Northwest	961	14	21	35	Low	Pinder, 1998
NSWC, Dahlgren Laboratory	1,758	10	7	17	Low	Buhlmann and Mitchell, 1997

^a Reported as 27 and 49, respectively.

^b Formerly a military installation; now under public and private ownership (Mitchell et al., 2001).

Compared to other military installations in Virginia, Fort Pickett supports a diverse assemblage of amphibians and reptiles (Table 1). Only Fort A.P. Hill has a larger documented fauna (Mitchell and Roble, 1998). This base is nearly twice the size of Fort Pickett, is situated in the more herpetologically diverse Coastal Plain physiographic province, has more wetland habitats, and has been sampled much more intensively. To date, 53 species have been recorded on Fort Pickett despite rather limited sampling and the complete or virtual lack of many standard (e.g., drift fences, pitfall traps, turtle traps, coverboards, road-cruising, etc.) or specialized (e.g., automated tape recorders) herpetological survey methods. At least nine other species (four amphibians, five reptiles) may occur on Fort Pickett judging from their known distributions in Virginia (Tobey, 1985; Mitchell, 1994; Mitchell and Reay, 1999), including *Acris gryllus*, *Scaphiopus holbrookii*, *Amphiuma means*, *Plethodon cylindraceus*, *Eumeces laticeps*, *Ophisaurus attenuatus*, *Elaphe guttata*, *Lampropeltis triangulum*, *Tantilla coronata*, *Virginia striatula*, and *Virginia valeriae*. Of these, both *A. means* and *O. attenuatus* have been

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recorded within 5 km (3 mi) of the base in Brunswick County (Tobey, 1985; Mitchell, 1994). The *Amphiuma* record is lacking from Mitchell and Reay (1999); Mitchell and Pague (1987) stated that this specimen was originally catalogued into the collection of the National Museum of Natural History (Smithsonian Institution), but was subsequently donated to a museum in Brazil, and remarked that the record needs to be verified. Conspicuously absent from the Fort Pickett fauna is the red-backed salamander (*Plethodon cinereus*), a species that is widespread in Virginia but unrecorded from this portion of the southern Piedmont (Highton, 1971; Tobey, 1985; Mitchell and Reay, 1999).

Gibbons et al. (1997) discussed the need for long-term sampling to thoroughly document the herpetofauna of a site, particularly a large area such as a military installation. They noted that secretive species, such as some snakes (e.g., *Cemophora*, *Storeria*, *Tantilla*, *Virginia*), may require years to decades of sampling before they are detected. These authors also illustrated that long-term sampling can alter initial perceptions of the distribution and abundance of some species. For example, secretive species that are difficult to detect may be regarded initially as very rare but eventually (through much additional sampling) shown to be common and widespread. Long-term sampling and monitoring can also reveal trends in population sizes. Gibbons et al. (1997) concluded that perceptions of herpetofaunal diversity are strongly dependent on the level of sampling effort and cautioned that land management decisions based on short-term databases can result in serious errors.

Despite a rather impressive species list, relatively little information is available on the distribution and abundance of the amphibians and reptiles of Fort Pickett. Most of the available data is limited to presence or absence records for particular species at sampled locations. Many species are reported from only one to a few sites in this paper but are likely widespread and common on the base. By contrast, other species that are also known from only a few sites may be local and rare to uncommon on the base. Several other species probably remain to be documented on the base. It is readily apparent that much more survey and monitoring work should be devoted to the herpetofauna of Fort Pickett in the future. Amphibians and reptiles are important components of the overall biodiversity of the base, which contains extensive areas of habitat in relatively natural condition.

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Summary of Virginia Sea Turtle Strandings During 2002

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The Chesapeake Bay and coastal waters of Virginia serve as important seasonal foraging grounds for an estimated 5,000 to 10,000 sea turtles each year (Keinath et al., 1987; Musick and Limpus, 1997). These turtles are predominantly juvenile loggerheads (*Caretta caretta*) and Kemp's ridleys (*Lepidochelys kempi*). Atlantic green turtles (*Chelonia mydas*), Atlantic leatherbacks (*Dermochelys coriacea*), and hawksbill sea turtles (*Eretmochelys imbricata*) also enter Virginia waters, but in substantially smaller numbers (Lutcavage and Musick, 1985; Keinath et al., 1987). All five of these species are protected under the U.S. Endangered Species Act.

A "stranding" is a dead or debilitated turtle that has washed onshore or is near shore. Virginia's sea turtle strandings typically number between 200 and 400 annually, and most of these occur between mid-May and mid-October (Lutcavage and Musick, 1985; Keinath et al., 1987). A large stranding peak is usually seen in the late spring or early summer as the turtles complete migrations to the Chesapeake Bay. Strandings are responded to by the Virginia Institute of Marine Science (VIMS), the Virginia Marine Science Museum (VMSM), and various state cooperators throughout the year.

During 2002, a total of 320 sea turtle strandings were confirmed by the Virginia Sea Turtle Stranding Network, which has been overseen by VIMS since 1979. Eighty-three percent (266) of these strandings occurred from May to September, with over half (57%) of the annual total occurring during May and June (Fig. 1). The 2002 strandings were comprised of 249 loggerheads, 37 Kemp's ridleys, 15 leatherbacks, 8 green turtles, and 11 unidentified species. Twenty-eight percent (89) of these turtles were found on the oceanside of Virginia Beach, 24% (75) on the oceanside of Virginia's Eastern Shore, and 22% (71) on the bayside of the Eastern Shore. The remaining turtles were split evenly between the

Southern and Western Chesapeake Bay, Virginia. Of the strandings examined, 72% (230) had no obvious wounds or abnormalities or were too decomposed to determine a cause of death. Nineteen percent (61) showed signs of a boat strike or some other crushing injury. A few turtles had ingested fishing hooks, showed signs of entanglement, or exhibited health problems.

Sea turtle strandings provide valuable information about the life history, ecology, and mortality of these species. If you encounter a live or dead stranded sea turtle, please note the location, size, condition (dead or alive), and species (if possible). Do not return live turtles to the water, and do not handle any animal prior to contacting stranding personnel. Dead turtles that have been marked with spray paint or a grease pen have already been examined and do not need to be reported. For turtle strandings north of the James River to the Maryland border, contact the VIMS Sea Turtle Program at 804-684-7313 or toll-free at 866-493-1085. For turtle strandings south of the James River to the North Carolina border and on Virginia's Eastern Shore, contact the VMSM Stranding Team at 757-437-6159.

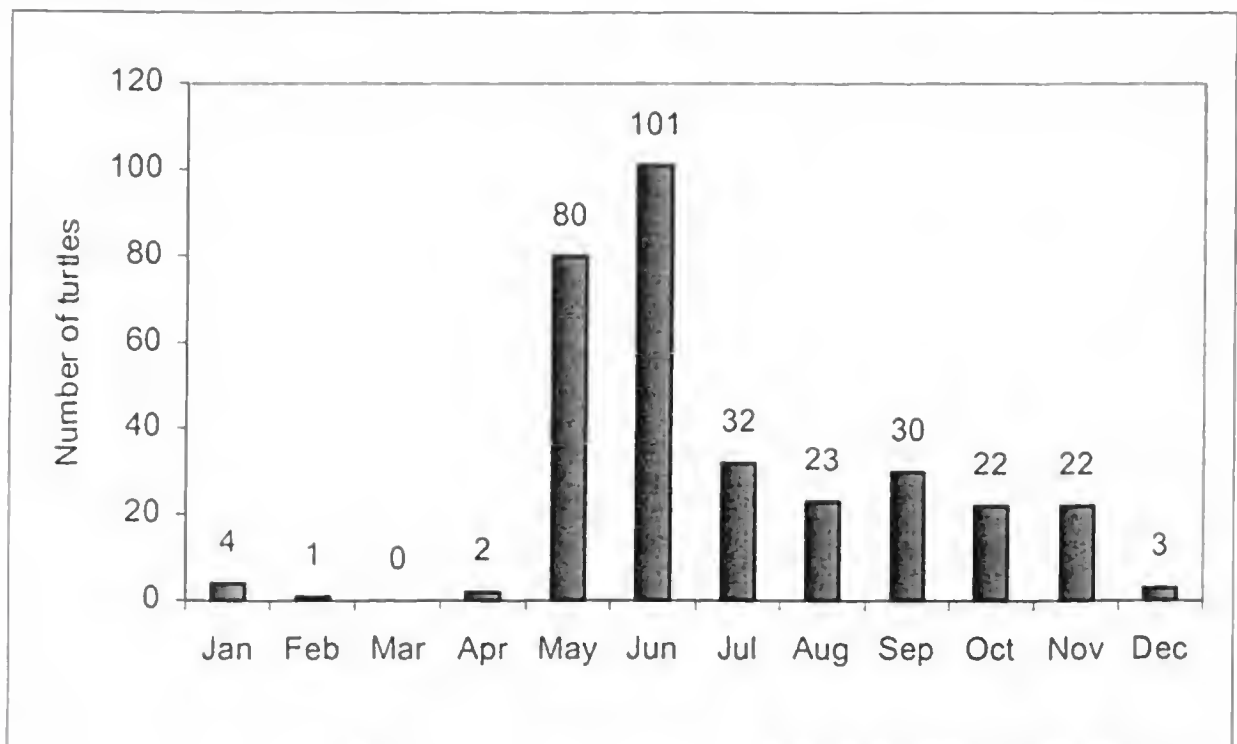


Fig. 1. Monthly sea turtle strandings in Virginia during 2002 ($n = 320$) as recorded by the Virginia Sea Turtle Stranding Network.

Sea Turtle Strandings

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Juvenile sea turtles:
Loggerhead (top),
Kemp's ridley
(bottom). Photos
by Erin E. Seney.

Field Notes

Gastrophryne carolinensis (Eastern Narrow-mouthed Toad).
VA: Dinwiddie Co., Co. Rt. 613, ca 1.5-4 km N of Brunswick Co. line.
27 June 2002. Christian A. d'Orgeix, Zainab F. Abdullah, Cassidy A. Baxter, Titlota I. Denloye, Jennifer S. Hill, Terry L. Jackson, and Michael M. Jones.

On 27 June 2002 at approximately 2100 h, two hours after the first significant rainfall in approximately 4 weeks, a female eastern narrow-mouthed toad was found crossing County Route 613 in Dinwiddie Co., approximately 2 km N of the Brunswick Co. line. Subsequently, between 2130-2200 h two males were heard calling from separate locations along this road approximately 2 and 4 km N of the Brunswick Co. line. Air temperature was approximately 24° C and a light intermittent drizzle occurred throughout the period of observation.

This is the first documented record for *G. carolinensis* in Dinwiddie Co. (Mitchell, J.C., and K. K. Reay. 1999. Atlas of Amphibians and Reptiles in Virginia. Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond Virginia. 122 pp.) and substantiates Mitchell & Reay's assertion that the distribution of this species in the southern portions of the Piedmont and Coastal Plain remains to be fully described. Our observation fills in a distributional gap between Chesterfield and Brunswick counties to the north and south of Dinwiddie County, respectively. There are no records from counties contiguous to Dinwiddie on the west (Mitchell and Reay, op. cit.). Photographs were taken of the female and a recording was made of one of the males. The female was released at the site of capture. A color photograph will be deposited in the VHS archives.

CHRISTIAN A. D'ORGEIX

Department of Biology
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Virginia State University
Petersburg, Virginia 23806
cdorgeix@vsu.edu

Field Notes

Rana catesbeiana (American Bullfrog). VA: City of Alexandria, Ben Brenman Park. 26 April 2003. William D. Robertson.

On 26 April 2003 a bullfrog was observed sitting on a log amid a cluster of cattails near the footbridge over the western end of the pond at Ben Brenman Park in Alexandria, VA. The individual was judged to be a female because the diameter of the tympanum was roughly equal to that of the eye. This specimen represents a new record for the City of Alexandria (Mitchell, J. C., and K. K. Reay. 1999. Atlas of Amphibians and Reptiles in Virginia. Virginia Department of Game and Inland Fisheries, Special Publication No. 1, Richmond, Virginia. 122 pp.). A color print will be deposited in the VHS archives at the Virginia Museum of Natural History.

WILLIAM D. ROBERTSON

2912 Bryan Street
Alexandria, Virginia 22302

Ambystoma maculatum (Spotted Salamander). VA: Chesterfield Co., Pocahontas State Park, 37° 23' 30"N, 77° 34'24"W. 9 March 2003. Paul A. Bedell.

On 9 March 2003, I observed a spotted salamander at 1130 h apparently in the process of egg-laying. An egg mass was attached to a submerged branch 3-4 cm underwater in a backwater pool where a small stream emerged from a culvert. Several other egg masses were attached to other submerged branches. The salamander was in a position suggesting that eggs were still being released from its cloaca. My initial thought was that the salamander had died during egg-laying. I then touched the salamander with my finger and it remained motionless. I was temporarily distracted by observing a spotted turtle (*Clemmys guttata*) sliding down the embankment and entering the water. When I returned my attention to the salamander a few minutes later it was gone. I returned to the location on 24 March to find that it had been destroyed by fill material during road widening.

The location was in a backwater formed where a small unnamed stream crossed under a culvert on Forest Road 120 in Pocahontas State Park.

The stream is less than one meter wide and shallow. I have not observed any fish, though they may be present. The backwater was on the downstream side of the culvert, had probably a very weak flow, and was less than one meter deep. Spotted salamanders are nocturnal egg-layers, so this is an unusual observation of diurnal egg-laying.

PAUL A. BEDELL

10120 Silverleaf Terrace
Richmond, Virginia 23236

Agkistrodon contortrix mokasen (Northern Copperhead). VA: Pittsylvania Co., 0.8 km NE jct. VA Rt. 360 and Co. Rt. 726. 10 September 2002. Susan Brower.

On 10 September 2002, a juvenile northern copperhead was killed in a residential yard. This specimen has been deposited in the Virginia Museum of Natural History. The vouchered status for this species in Pittsylvania Co. has an interesting literature history. Linzey and Clifford (1981. Snakes of Virginia. University of Virginia Press, Charlottesville, VA. 173 pp.) and Tobey (1985. Virginia's Amphibians and Reptiles, A Distributional Survey. Virginia Herpetological Society, Purcellville, VA. 114 pp.) both recorded this species for Pittsylvania Co. Mitchell (1994. The Reptiles of Virginia. Smithsonian Institution Press, Washington, DC. 352 pp.) reported an unvouchered record for the northern copperhead for Pittsylvania Co. Mitchell and Reay (1999. Atlas of Amphibians and Reptiles in Virginia. Virginia Department of Game and Inland Fisheries, Special Publication No. 1, Richmond, VA. 122 pp.) and the Virginia Department of Game and Inland Fisheries Collections Database (2003. VDGIF Collections Database. Fish and Wildlife Information System, Richmond, VA. <http://vafwis.org/perl/vafwis.pl/vafwis>) do not record the northern copperhead for Pittsylvania Co. This new observation for *Agkistrodon contortrix* helps to confirm the original county record status given by Linzey and Clifford (op. cit.) and Tobey (op. cit.).

JASON D. GIBSON

Division of Arts and Science
Danville Community College
Danville, Virginia 24541

Field Notes

Lampropeltis getula getula (Eastern Kingsnake). VA: Campbell Co., Co. Rt. 637, 10 km (6 mi) E jct. Co. Rt. 761. 28 May 2003. David L. Dawson.

On the afternoon of 28 May 2003 while traveling on Co. Rt. 637 (Whitehall Rd.) I came upon a DOR eastern kingsnake. The air temperature was approximately 70° F (21° C). There had been about 7 inches (18 cm) of rain in the past several days. The road at this point was bordered on the south by a home with a half-acre (0.1 ha) pond, and surrounded by a manicured lawn. The area on the north is pine woods. The snake was 5 ft (ca. 1.6 m) long. I retrieved the skin for positive identification, which was confirmed by John White, Vice President, Virginia Herpetological Society. This is the first vouchered record for this species from Campbell County (Mitchell, J. C. and K. K. Reay 1999. Atlas of Amphibians and Reptiles in Virginia. Virginia Department of Game and Inland Fisheries, Special Publication No. 1, Richmond, Virginia. 122 pp.).

DAVID L. DAWSON

1184 Melrose Road
Gladys, Virginia 24554

Lampropeltis getula getula (Eastern Kingsnake). VA: Pittsylvania Co., 181 Samuel Court. 4 July 2003. Jason D. Gibson.

On the morning of 4 July 2003 (1030h) an adult eastern kingsnake was discovered in weedy vegetation beside a small ephemeral stream. This species is not documented for Pittsylvania Co. by Tobey (1985. Virginia's Amphibians and Reptiles, A Distributional Survey. Virginia Herpetological Society, Purcellville, VA. 114 pp.), Mitchell (1994. The Reptiles of Virginia. Smithsonian Institution Press, Washington, DC. 352 pp.), Mitchell and Reay (1999. Atlas of Amphibians and Reptiles in Virginia. Virginia Department of Game and Inland Fisheries, Special Publication No. 1, Richmond VA. 122 pp.), or the Virginia Department of Game and Inland Fisheries Collections Database (2003. VDGIF Collections Database. Fish and Wildlife Information System, Richmond, VA. <http://vafwis.org/perl/vafwis.pl/vafwis>). However, Linzey and Clifford (1981. Snakes of Virginia. University of Virginia Press,

Charlottesville, VA. 173 pp.) recorded this snake for Pittsylvania Co. The current observation confirms their earlier published account for this species and adds a new record for another Piedmont location for this uncommon snake. A digital photo was taken and has been deposited in the VHS digital image database in the University of California Berkeley Digital Library Project. The picture is located in the VHS collection at: [<http://elib.cs.berkeley.edu/photos/fauna/>]. While handling the animal for photographing, it exhibited the characteristic tail rattling and musk release. Upon further manipulation, it coiled up and struck at my hands and feet. Coiling and striking behavior are not documented in Mitchell (1994, op. cit.).

JASON D. GIBSON

Division of Arts and Science
Danville Community College
Danville, Virginia 24541

Thamnophis sauritus sauritus (Eastern Ribbon Snake). VA: Fairfax Co., Mason Neck National Wildlife Refuge. 22 March 2003. John M. Orr.

Little information is available on the hibernacula used by the ribbon snake *Thamnophis sauritus*. It has been found hibernating in ant mounds and vole tunnels (Carpenter, C. C. 1953. A study of hibernacula and hibernating associations of snakes and amphibians in Michigan. Ecology 34: 74-80.). Ernst and Ernst (2003. Snakes of the United States and Canada. Smithsonian Institution Press, Washington DC. 668 pp.) listed muskrat lodges and burrows as possible hibernacula. Hansknecht et al. (1999. *Thamnophis sauritus sauritus* (Eastern ribbon snake). Hibernaculum. Herpetological Review 30: 104) reported five *T. s. sauritus* using the upturned root base of a large beech tree for a hibernaculum at Mason Neck National Wildlife Refuge, Fairfax Co., Virginia.

At 1530 h on 22 March 2003, two male *T. s. sauritus* were captured within centimeters of each other along the Woodmarsh Trail near Eagle Point at the Mason Neck National Wildlife Refuge. The snakes remained motionless as approached. Once captured, however, they twirled around, thrashed about, and musked. The first snake captured (SVL 42.7 cm, total

Field Notes

length 55.8 cm (tail incomplete), mass 17.9 g) had a cloacal temperature of 26.6° C. The other snake (SVL 39.6 cm, total length 58.8 cm, mass 17.6 g) had a cloacal temperature of 27.0° C. Air temperature was 21.6° C, warmer than it had been for the previous few days.

The snakes were found on top of an old, decaying stump that was 33 cm in diameter and had a temperature of 22.0° C. The stump was near the top of a slope that faced SSW toward the Great Marsh, 53 m uphill from the waterline. An examination of the interior of the stump revealed no more snakes but a few tunnels were uncovered. The two snakes had emerged to bask presumably after overwintering in the tunnels. The southern exposure of the stump would help to keep temperatures elevated during the winter.

JOHN M. ORR

Department of Biology, 3E1
George Mason University
Fairfax, Virginia 22030-4444

Malaclemys terrapin (Diamondback Terrapin). VA: Northampton Co., Assateague Island, Chincoteague National Wildlife Refuge. 20 July 2003. John White & family.

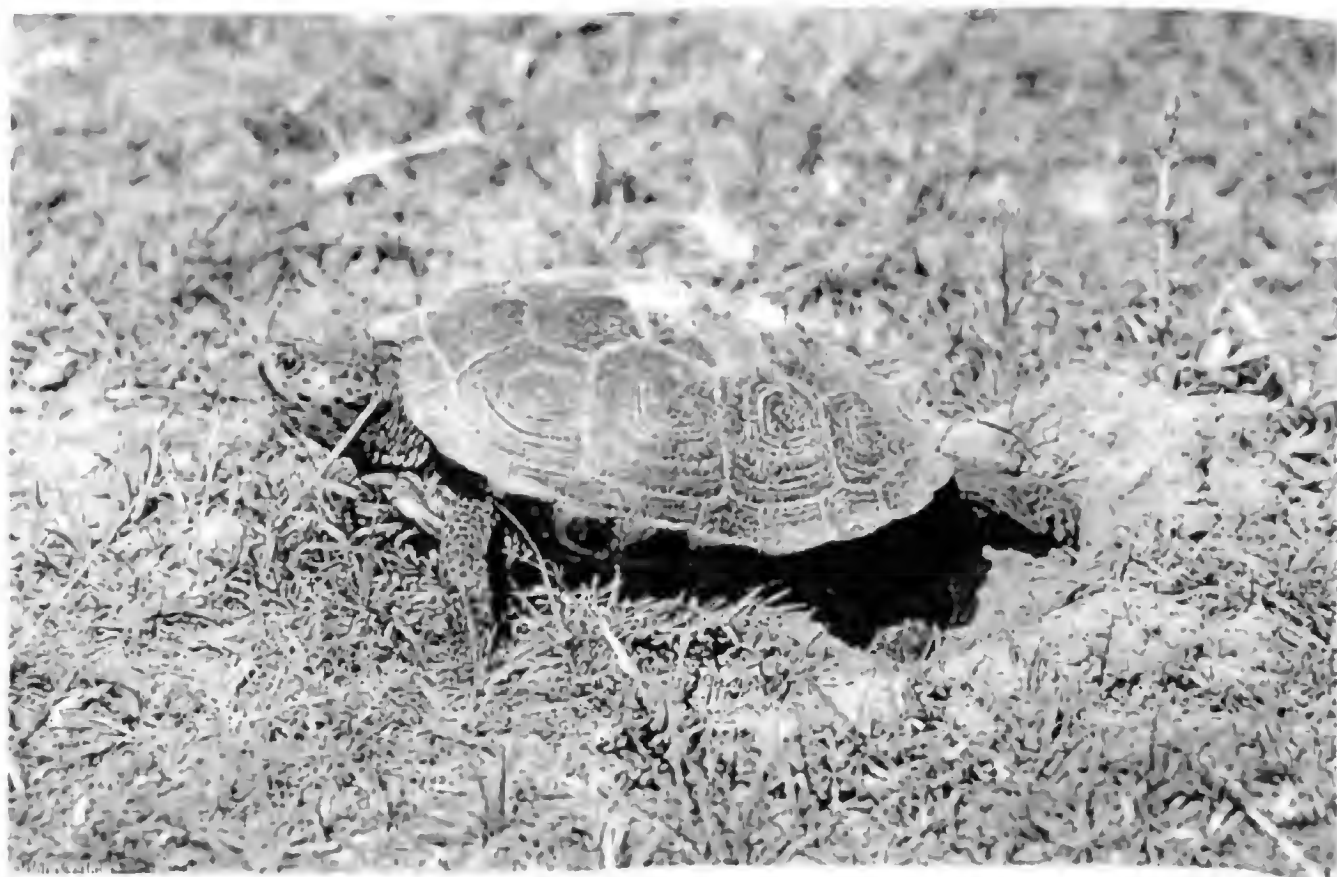
While traveling north on the Chincoteague National Wildlife Refuge service road a diamondback terrapin was observed depositing eggs into a nest at 1534 h on 20 July 2003. The nest was located in moist, sandy soil approximately 2 m off the service road and about 4 m from the bank of a man-made freshwater impoundment. The weather was breezy, bright sunshine with an air temperature of 28° C. There appear to be some discrepancies in the literature regarding late nesting dates for this species in the region. According to Mitchell (1994. *The Reptiles of Virginia*. Smithsonian Institution Press, Washington DC. 352 pp.), the known nesting dates for *M. terrapin* in Virginia are from 30 May to 10 July. White and White (2002. *Amphibians and Reptiles of Delmarva*. Tidewater Publishers, Centreville, MD. 248 pp.) stated that nesting dates are from early June to mid-July. Mitchell and Anderson (1994. *Amphibians and Reptiles of Assateague and Chincoteague Islands*. Special Publication Number 2. Virginia Museum of Natural History,

Martinsville, VA. 120 pp.) reported nesting dates for Assateague and Chincoteague islands as 4 June to 24 July, whereas Conant et al. (1990. Herpetofauna of the Virginia barrier islands. Virginia Journal of Science 41:364-380) cited the period of 30 May to 25 July for the Virginia barrier islands.

JOHN WHITE & FAMILY

2815 N. Van Buren Street

Arlington, Virginia 22213-1517



Nesting *Malaclemys terrapin* at Assateague Island, Chincoteague National Wildlife Refuge. Photo by John White.

Field Notes

Trachemys scripta scripta (Yellow-bellied Slider). VA: City of Chesapeake, 0.5 km S jct. Interstate 64 and Greenbrier Parkway. 14 June 2003. Jason D. Gibson and Mark E. Gibson.

At 1645 h on 14 June 2003, a female yellow-bellied slider was observed digging a nest in a rock flowerbed along the margin of a restaurant that borders a series of man-made lakes called Greenbrier Lakes. The nest appeared to be near completion. Cagle (1950. The life history of the slider turtle, *Pseudemys scripta troostii* (Holbrook). Ecological Monographs 20: 31-54) observed that nest excavation can take 26-187 min. Assuming the turtle was nearly finished at 1645 h and it took 26 min, nest excavation would have begun around 1619 h. Mitchell (1994. The Reptiles of Virginia. Smithsonian Institution Press, Washington, DC. 352 pp.) stated that nest construction occurs mainly at dusk or at night and Cagle (1937. Egg laying habits of the slider turtle (*Pseudemys troostii*), the painted turtle (*Chrysemys picta*), and the musk turtle (*Sternotherus odoratus*). Journal of the Tennessee Academy of Science 12: 87-95) reported nesting activity occurs in early morning or late evening. This current observation falls outside the range of dusk, night, and early morning.

JASON D. GIBSON

Division of Arts and Science
Danville Community College
Danville, Virginia 24541

Guidelines for VHS Field-Study Grants

The purpose of Field-study Grants from the Virginia Herpetological Society is to stimulate and encourage herpetological research in Virginia. These Grants will be in variable amounts up to \$200.00 and are available to VHS members who do not have access to other sources of funding, such as institutions of higher learning and government grants.

Grant requests should include a description of the proposed research, or in the case of surveys the extent of the geographic area to be surveyed, and the methods which are to be used. A rough budget would be helpful. A brief justification of the importance of the work in contributing to the knowledge of Virginia's herpetofauna, citing standard works (e.g., Mitchell, J. C. 1994. *The Reptiles of Virginia*. Smithsonian Institution Press, Washington, D.C. 352 pp.; Mitchell, J. C. and K. K. Reay. 1999. *Atlas of Amphibians and Reptiles in Virginia*. Virginia Department of Game and Inland Fisheries, Special Publication No. 1, Richmond, Virginia. 122 pp.; and Tobey, F. J. 1985. *Virginia's Amphibians and Reptiles: A Distributional Survey*. Virginia Herpetological Society, Privately Printed, Purcellville, Virginia. 114 pp.) should be included. The results of all funded surveys must be submitted in manuscript form for publication in *Catesbeiana*.

Grant requests will be received by the current President until March 15 of each year. The President will then send copies to Executive Committee members by the end of March, and a Committee vote will be scheduled sometime during the annual Spring meeting. The Executive Committee will first determine that funds are available, and then that the Grant request is worthy of funding. A majority ruling is required for both votes. When a grant is approved, the Secretary/Treasurer will so inform the recipient, send a check for the amount determined by the Committee, and inform the recipient of the requirement to publish the results in *Catesbeiana*.

President's Corner

My term as President has come to an end. Therefore, this will be my last President's Corner. I must admit that the past four years as President-Elect and President have been interesting to say the least. This post has allowed me to go to many beautiful locations around the state of Virginia and to meet many fine people. Looking back over the past two years as President, I see that I had many successes, but also many areas that could have been improved. My main shortcoming was not forming committees and delegating responsibilities very well. I suggest to the incoming President that he/she get VHS members to do a fair share of the work for organizing meetings and spring surveys. I think that one of my most successful endeavors was last fall's meeting featuring a symposium on the genus *Ambystoma*. I really think that everyone who came had a great time. I also believe the last spring survey that I was involved with was also a big success. We had a large crowd and a nice meeting facility. The camaraderie was very enjoyable.

For anything that was right with the VHS while I was President, I take only partial credit. Many people make the VHS function. I would like to recognize the members that have made this so during my tenure: John White, Steve Roble, Paul Sattler, Shelly Miller, Mike Pinder, and all the people who came to meetings and surveys. I have many fond memories over the past four years.

Some of my fondest memories include: road cruising with Paul Sattler at 12:00 AM, seeing Don Mackler's eye swell shut after he touched a spadefoot toad and rubbed his eye, freezing to death while camping during the Big Survey collecting trip, camping in the rain every time John White decided to camp, seeing how much red ink Steve Roble could fit on one of my manuscripts submitted for publication in *Catesbeiana*, and last of all, the pleasure of being around people who care deeply about the amphibians and reptiles that inhabit Virginia.

The future of herpetology in Virginia is wide open. To the incoming officers, there are many things that the VHS can still do and contribute to the education of the public, the conservation of reptiles and amphibians, and the research of these animals in Virginia. State records for herps are still being added¹ and are still lurking for us to discover. There are many locations in Virginia that still need to be surveyed for amphibians and reptiles (Brunswick County being at the top of my list). The teachers and public need to be educated more about the importance of native animals and threats to their continued existence. Partnerships and joint surveys with other natural history

societies need to be developed. BioBlitz is a perfect example. There are articles and books that need to be written by VHS members. The fate of *Catesbeiana* is in your hands. I would love to see a poster developed of Virginia's amphibians and reptiles. I think that a guide to the amphibians of Virginia, similar to the snake brochure, would be well received by the public. There is a lot of work to do. The next President and his/her officers have the opportunity to do many great things with the society but great effort will be required to get people involved. I hope that the next President is not like me but rather better than me. I hope that he/she will trust the members to be more active and contributing.

I would like to say in closing, thanks for the opportunity to serve the VHS as President. I plan to remain very active and look forward to seeing everyone at the next meeting in Lynchburg and the 2004 spring survey.

Respectively submitted,
Jason Gibson, VHS President

¹Hobson, C. S. and E. C. Moriarity. 2003. Geographic distribution: *Pseudacris nigrita nigrita* (Southern Chorus Frog). Herpetological Review 34: 259-260.

Dues Reminder

Membership in the Virginia Herpetological Society is on a calendar year basis (expires annually on December 31). Please consider renewing your membership for 2004 now to save our treasurer the time and expense needed to mail you a renewal notice. **Check the date on your mailing label to determine the year through which you have paid dues.** See the last page of the bulletin for the membership application/renewal form. Save postage by paying your dues at the Fall Meeting.

Minutes of the VHS Spring Meeting

May 30, 2003

Greensville County, Virginia

Jason Gibson opened the meeting at 7:00 PM. Jason reminded the membership that the VHS officers all need to be elected at the upcoming Fall 2003 meeting. In an attempt to plan for a transfer of leadership, Shelly Miller was nominated for the office of Vice-President and Paul Sattler for Secretary/Treasurer. Members wishing to take a more active role in the Society should contact Jason. The nomination for President is still open.

Liberty University was asked to host the Fall 2003 meeting in Lynchburg, as a central location within the state. The date was set for October 25, 2003. We really want to push the Teacher's workshop and equal the large turnout experienced the last time it was held in Lynchburg. There was some discussion as to who would be presenting at the Teacher's/Educational workshop. Names mentioned were Jason Gibson, John White, and possibly Carol Heiser, Mike Pinder and Mike Hayslett. After some discussion, it was agreed that the Fall meeting would have an open format for the afternoon presentations, and not restrict presenters to a symposium on a single topic.

In an attempt to clear the inventory of older T-shirts, it was decided to lower the price to \$10 per shirt, for all the different types currently in stock.

The VHS helped to sponsor the second annual "BioBlitz" at Douthat State Park earlier in May. While it rained almost constantly for both days of the survey, numerous amphibians were recorded. The presence of reptiles was lower than would have been expected, most likely because of the weather. It was agreed that while the VHS should support the BioBlitz, both with finances and personnel, it should not substitute for the normal VHS Spring meeting. The VHS will continue to meet separately from the BioBlitz in the future.

There was discussion at the last meeting about maintaining a record of amphibian breeding data in an attempt to track long-term trends. Joe Mitchell will be contacted to see what type of data might be most useful if an "Amphibians of Virginia" book is prepared in the future. Paul Sattler

will collect the data submitted and maintain it in an Excel spreadsheet.

Since many vouchers are now being collected with digital cameras, there was discussion of maintaining a Digital Archive for VHS records. John White, who maintains the VHS website will be the repository for digital pictures. He will look into the most feasible method to store these data, in a format which can be searched.

The condition of the Virginia Museum of Natural History was discussed. Because there is no curator for Reptiles and Amphibians, the collection has not been maintained of late. The photo archive is a file cabinet drawer into which photos are deposited, often separate from the data supporting the photo. The preserved specimens are also not being maintained, and it was questioned whether data entry of new specimens was occurring. After some discussion, a good solution was not found to remedy or even alleviate the situation.

John White gave the Web site report. He reported that the site was receiving about 20,000 hits each year. It is increasingly becoming the main source of Society information.

Shelly Miller reported that the email delivery of the Newsletter was going well. She asked members to continue sending in materials for inclusion.

Paul Sattler reported that the minutes for the Fall 2002 meeting at the 4-H Education Center at Holiday Lake meeting were printed in the last issue of *Catesbeiana*. Since the Treasurer's report printed in April, printing charges for *Catesbeiana* 23(1) has brought the balance to about \$4,700 at present.

Steve Roble reported that *Catesbeiana* printing costs had come down for the last issue. There were about 150 copies of Volume 23(1) mailed out. There was further discussion of publishing the herpetology results of the BioBlitz survey each year in the Fall issue of *Catesbeiana*.

After a brief break for refreshments, Jason Gibson gave a slide presentation (devoid of the DOR snake slides featured in previous presentations) on the species which might be found in Greenville County. The continual and heavy rains made for some problems in

Minutes

reaching certain sites which were intended for survey, but had been good for amphibians. Members were told to be sure to report to the hunting lodge at 8:00 AM Saturday to receive directions to the survey sites since they were all on private lands this year.

Respectively submitted,
Paul Sattler, VHS Secretary/Treasurer

Treasurer's Report, October 2003

Previous Checking Balance April 2003	\$4829.72
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Receipts:

April Receipts	\$ 30.00
May Receipts	\$ 60.00
June Receipts	\$ 285.00
July Receipts	\$ 23.00
August Receipts	\$ 120.00
September Receipts	\$ 43.00

Total Receipts	\$ 561.00
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Disbursements:

Catesbeiana 23(1)	\$ 339.34
August Newsletter	\$ 60.00
Spring Meeting (Food)	\$ 51.67
Checking Charge	\$ 12.00

Total Disbursements	\$ 466.01
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Balance on Hand October, 2003	\$4924.71
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**ANNOUNCEMENT
FALL 2003 MEETING
VIRGINIA HERPETOLOGICAL SOCIETY**

The VHS will hold its fall meeting on Saturday, October 25, 2003 at Liberty University in Lynchburg Virginia. The meeting will include a silent auction, photo contest, paper session, and teacher workshop. Elections will occur during this meeting for the offices of President, Vice President, and Secretary-Treasurer.

We are still looking for presenters. If you would like to present a paper during the afternoon session, please email or call Jason Gibson (frogman31@earthlink.net or 434-724-9034). Presentations should be about 15-20 minutes in length. A title or short description of the presentation and a brief biography should be made available to Jason so that he can properly introduce each speaker.

Please bring any books, posters, or other items related to herpetology that you would like to donate to the silent auction. Also bring your best herp-related photo. The winner of the photo contest will receive a free t-shirt.

John White, Mike Pinder, Norm Reichenbach, and Jason Gibson will conduct this year's teacher workshop. During this four-hour workshop, teachers will have the opportunity to learn what amphibians and reptiles live in Virginia, reptile and amphibian identification, captive care and handling of these animals, and protection and management of threatened and endangered species. Area teachers have already been contacted about this workshop and are beginning to register. For more information about this workshop please contact Jason Gibson.

MEETING AGENDA

- | | |
|------------|--|
| 8:00-12:00 | Educational Workshop for teachers |
| 11:00 AM | Business meeting...topics include: <ul style="list-style-type: none">• Elections• Spring meeting location |
| 12:00 PM | Lunch (there are many local restaurants that are easily accessible from the college) |

Fall Meeting Announcement

1:00 PM

Paper session

Silent auction

Photo contest winners

Directions to Liberty University Campus

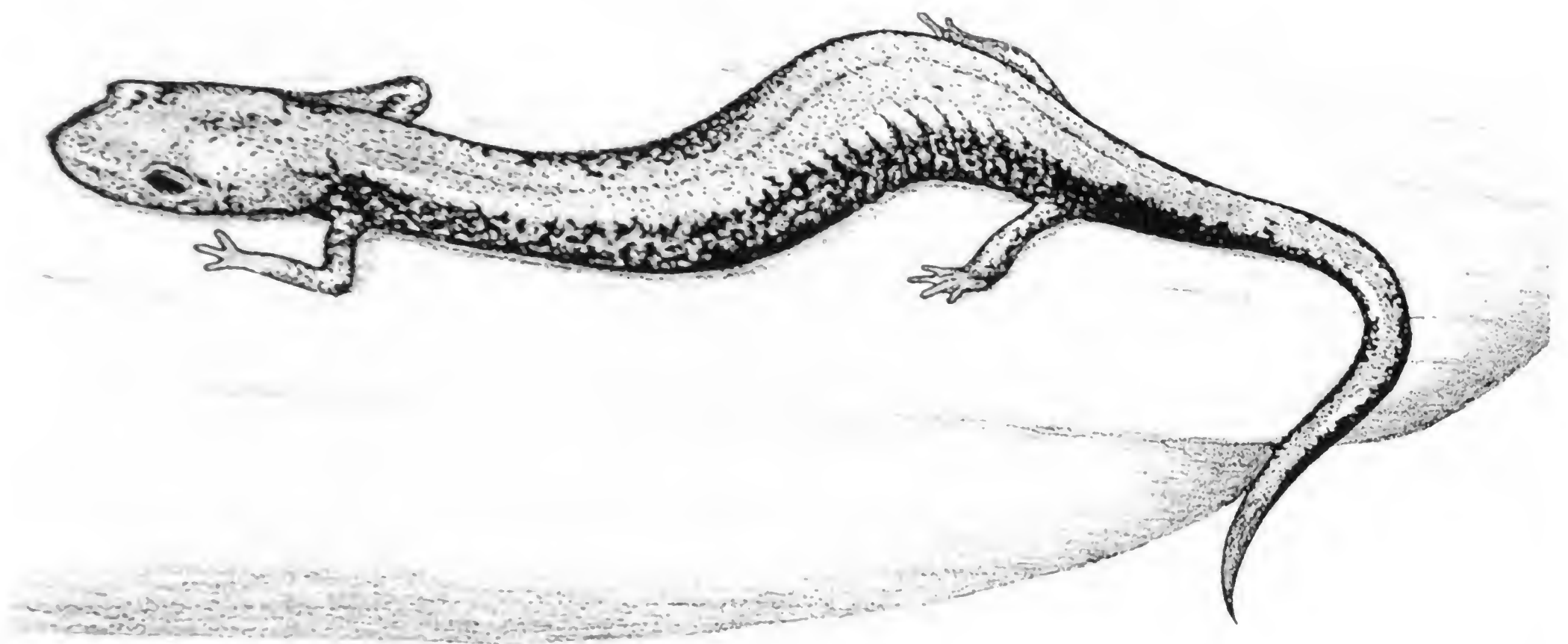
A detailed map can be accessed from the VHS website at <http://fwie.fw.vt.edu/VHS/> (Click on the fall 2003 link and then click on map or driving directions). We will be meeting in the Science Hall room DH 1105.

Northbound on 29 - Take 460 E to the exit for Candler's Mtn. Rd./Liberty University. At the stop sign, make a right. Go to the first light and make a left onto the University Blvd. exit. Stay straight through light and enter Liberty's campus.

Southbound on 29 - Take Exit 8b. Go through the first light. At the second light make a right on S 670 (there is a Liberty University sign with an arrow pointing to the right). Go two more lights. Make a right on University Blvd. Stay straight through light and enter Liberty's campus.

Eastbound on 460 - Exit on Rt. 670, Candler's Mtn. Rd. At the stop sign, make a right. Go to the first light and make a left onto University Blvd. Stay straight through light and enter Liberty's campus.

Westbound on 460 or Northbound on 501 - Take the Candler's Mtn. Rd./University Blvd. exit. At the light make a left and enter Liberty's campus.



GORDON WILSON
June, 2002

Peaks of Otter Salamander (*Plethodon hubrichti*)

MEMBERSHIP APPLICATION

I wish to _____ initiate _____ renew membership in the Virginia Herpetological Society for the year _____ 2003 _____ 2004 _____ 2005.

Name _____

Address _____

_____ Phone _____

email address: _____

Dues Category: _____ Regular (\$15.00)

_____ Family (\$20.00)

_____ Under 18 (\$8.00)

_____ Life (\$225.00)

Interests: _____ Amphibians _____ Reptiles

_____ Distribution _____ Research

_____ Captive Husbandry

_____ Specifically _____

Make checks payable to the Virginia Herpetological Society and send to:
Dr. Paul Sattler, VHS Secretary/Treasurer, Department of Biology,
Liberty University, 1971 University Blvd., Lynchburg, VA 24502

Visit the VHS web site at: <http://fwie.fw.vt.edu/VHS/>

Field Notes

This section provides a means of publishing natural history information on Virginia's amphibians and reptiles that does not lend itself to full-length articles. Observations on geographic distribution, ecology, reproduction, phenology, behavior, and other topics are welcomed. Field Notes will usually concern a single species. The format of the reports is: Scientific name (followed by common name in parentheses), state abbreviation (VA), county and location, date(s) of observation, observer(s), data, and observations. The name(s) and address(es) of the author(s) should appear one line below the report. Consult the editor if your information does not readily fit this format. **ALL FIELD NOTES MUST INCLUDE A BRIEF STATEMENT EXPLAINING THE SIGNIFICANCE OF THE RECORD** (e.g., new county record) **OR OBSERVATION** (e.g., unusual or rarely observed behavior, extremely early or late seasonal record, abnormal coloration, etc.). Submissions that fail to include this information are subject to rejection. Relevant literature should be cited in the body of the text (see Field Notes in this issue for proper format). All submissions will be reviewed by the editor (and one other person if deemed necessary) and revised as needed; all changes must be approved by the author(s) before publication.

If the field note contains information on a new county (or state) record, verification is **REQUIRED** in the form of a voucher specimen deposited in a permanent museum (e.g., Virginia Museum of Natural History) or a color photograph (print or slide) deposited in the archives of the Virginia Herpetological Society. Photographs should be sent to the editor for verification and archiving purposes; the identity of voucher specimens must be confirmed by a museum curator or other qualified person. Include the specimen number if it has been catalogued. Prospective authors of distribution reports should consult Mitchell and Reay (1999. *Atlas of Amphibians and Reptiles in Virginia*), Mitchell (1994. *The Reptiles of Virginia*), Tobey (1985. *Virginia's Amphibians and Reptiles: A Distributional Survey*) and other recent literature to determine if they may have a new county record. Species identification for observational records (e.g., behavior) should be verified by a second person whenever possible.

The correct citation format is: Tobey, F. J. 1989. Field notes: *Coluber constrictor constrictor. Catesbeiana* 9(2): 35.

Photographs

High contrast black-and-white photographs of amphibians and reptiles will be considered for publication if they are of good quality and are relevant to an accompanying article or field note. Submissions should be no larger than 5 x 7 inches and printed on glossy paper. Published photographs will be deposited in the archives of the Virginia Herpetological Society.